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ABSTRACT

In recent years the Army has been concerned about the widespread use of psychoactive drugs by all classes of young people and the effects of this use on the Army. In order to curb this use among soldiers the Army initiated a comprehensive program to prevent and control the abuse of alcohol and drugs. Prevention was considered to include education, law enforcement, and community action, but particularly education and training. The research reported in this paper assessed the effectiveness of education in preventing drug abuse in the Army units surveyed. A cross-sectional survey of 1,716 men on 16 posts, plus a separate evaluation at one post and group interviews, produced data that suggest that Army drug education programs appear to influence immediate drug use less than related demographic factors such as last civilian residence, age, or race. Civilian studies corroborate this finding. (Author)

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AN ASSESSMENT OF DRUG EDUCATION-PREVENTION PROGRAMS IN THE U.S. ARMY

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In recent years the Army has been concerned about the widespread use of psychoactive drugs by all classes of young people and the effects of this use on the Army. In order to curb this use among soldiers the Army initiated a comprehensive program to prevent and control the abuse of alcohol and drugs. Prevention was considered to include education, law enforcement, and community action, but particularly education and training. The research reported in this

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FOREWORD

The Social Processes Technical Area of the Army Research Institute (ARI) is concerned with problems of social dynamics and interactions to enhance the adjustment of the soldier to the modern Army and provide field commanders with techniques to increase unit competence. Programs in the Technical Area deal not only with systematic research over wide areas but with solutions to immediate and specific problems, in this case the requirement to curb the abuse of drugs in the Army by developing effective methods of prevention, control, and treatment.

This Technical Paper reports on the effectiveness of education in reducing drug abuse in the Army units surveyed during the research. Research is conducted under Army RDTE Project Number 2Q162108A752, "Institutional Change," FY 1974 Work Program. The research is conducted as an in-house effort augmented by contracts with organizations selected as having unique capabilities in this area. The present study was conducted jointly by personnel of Arthur D. Little, Inc., of Cambridge, Mass., and the Army Research Institute, and is responsive to special requirements of the Director of Human Resources Development, Office of the Deputy Chief of Staff for Personnel of the U.S. Army.

J. E. UHLANER
Technical Director

AN ASSESSMENT OF DRUG EDUCATION-PREVENTION PROGRAMS IN THE U.S. ARMY

BRIEF

Requirement:

To assess the effectiveness of Army drug education programs designed to prevent drug and alcohol abuse.

Procedure:

The impact of drug education on patterns of drug use was assessed through a cross-sectional survey of 1,716 enlisted men over 16 Army posts, and through a separate-sample pretest-posttest evaluation of a drug education program at one post. In addition, group interviews were conducted with a total of 191 enlisted men.

Both the survey data and the pretest-posttest data were analyzed primarily by cross-classification tables against a chi-square criterion, contrasting drug-education factors with the use of alcohol and seven other drugs. The Automatic Interaction Detector program (AID) was also used on the survey data to assess interactive effects of background and educational factors on drug use patterns.

Findings:

Current drug education programs in the Army were consistently found to be ineffective in preventing or diminishing drug use. For the most part this failure of education occurred regardless of the particular educational, process or technique employed. The AID analyses revealed background and situational factors to be considerably more powerful in determining changes in drug use than any of the drug education factors.

Utilization of findings:

Drug education appears to be less effective as a short-term method for preventing all drug and alcohol abuse when the evaluation of the education program is based solely upon amount of drug use. The findings indicate that immediate prevention of all drug use through a single educational program is, for the most part, unrealistic. The Army drug education program might better be utilized as a long-range program involving information, clarification of positive individual values concerning drug use, and the development of more positive sets of behaviors regarding drugs. A "rap session" method of presenting drug education is suggested as the approach with the highest payoff.

AN ASSESSMENT OF DRUG EDUCATION-PREVENTION PROGRAMS IN THE U. S. ARMY

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FIGURE

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Since the early 60's, the illicit use of psycho-active drugs has increased significantly among certain segments of American society, particularly with those segments which contain high proportions of youth. Although epidemics of drug use are not new in this country, the recent rates of illicit use among high school and college-age youth have been unprecedented.[1,2] No longer is illicit use confined to lower-class youths of the inner city; it has spread up through the socio-economic strata, out into the suburbs, and onto military posts. Surveys of drug use in the armed services have indicated that sizable proportions of enlisted men in the Army use illicit drugs (Table 1).

Table 1

USE OF DRUGS IN THE ARMY IN 1971 (12 MONTH PERIOD)
(N = 8,643)

Drug	% of Enlisted Men
Marijuana	42.7
Other Psychedelic drugs	29.4
Stimulants	28.0
Narcotics	20.1

Note. Data from Fisher, A. 1971 DOD survey of drug use. Alexandria, Va.: Human Resources Research Organization. March 1972.

Although the precise effects of these drugs on physiological function are not known, there has been legitimate cause for concern regarding the potential impact of drug use on troop morale and combat readiness.

[1] Brecher, E.M. Licit and illicit drugs. Boston: Little, Brown, 1972.

[2] National Commission on Marijuana and Drug Abuse. Drug use in America: A problem in perspective (Second report). Washington, D.C.: Government Printing Office, 1973.

Consequently, the Army initiated a comprehensive program to prevent and control the abuse of alcohol and drugs. The functional areas of the Army program are prevention, identification, detoxification, rehabilitation, evaluation and research. The area of prevention was considered to include education, law enforcement, and community action.[3]

The prevention of drug abuse through education and training has been a major feature of this program. Since 1971 drug education and training programs have been launched throughout the Army, programs designed to educate troops about the dynamics and consequences of drug abuse, and training programs designed to impart skills and knowledge to leaders and key individuals (drug program staff, psychiatrists, chaplains, etc.) who must cope with the problem. Unfortunately, little is known about the impact of these programs. The research presented here was conducted to assess the effectiveness of those drug education and training programs and to consider courses of action most appropriate for preventing drug abuse among soldiers. This report presents the findings of the research on drug education programs in the Army; a later report will present the results of research on the drug training programs.

BACKGROUND

In the Army, attempts to prevent illicit drug use have typically taken the form of programs designed to educate individuals about the dynamics and consequences of such use. While specific objectives vary, implicit in the generation of most drug education programs is the belief that information about drugs will deter or diminish their illicit use. However, no systematic research had determined the impact of these programs on the subsequent drug use of soldiers. Staff in the field who develop and conduct drug prevention programs have little feedback regarding the strengths and weaknesses of their education programs; thus, they find it difficult to assess and improve their efforts.

Information about drug education programs in civilian communities was not directly applicable; a number of researchers have investigated the effects of drug education, but their samples have typically been younger people (school age) living in environments quite different from the military. Furthermore, their results have tended to be equivocal: some individuals seemed to be influenced for a time along certain dimensions, usually attitudinal or cognitive, but little evidence appeared of behavior change.[4,5]

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[3] Department of the Army Circular 600-85, Alcohol and Drug Abuse Prevention and Control Program. June 1972.

[4] Martin G., and T. O'Rourke. The perceived effectiveness of selected programs and sources with respect to preventing the use of dangerous drugs. Journal of Drug Education, 1972, 2 (4), 329-335.

[5] Amendolara, F. Modifying attitudes towards drugs in seventh grade students. Journal of Drug Education, 1973, 3 (1), 71-78.

The present research was designed to answer two major questions basic to the Army's concern: (1) What has been the impact of drug education on the drug-use patterns of enlisted men? (2) What has been the relative impact of drug education on drug use patterns when compared to the influence of demographic and situational characteristics? In a broader sense, the research was designed to yield a set of suggestions for improving the prevention of alcohol and drug abuse among troops.

METHOD

Design

Ideally, an evaluation research design incorporates a factorial arrangement with measurements taken several times before and after the treatment.[6] Such a design necessitates a clear delineation of a program in place and time, a precise identification of independent variables, and feasible means for their manipulation. Because the Army drug education effort is spread world-wide in various stages of development and implementation, an eclectic research strategy was employed which encompassed two types of research design and used both questionnaire and interview methods. One design was the static-group comparison, a cross-sectional survey of 1,716 enlisted men at 16 posts throughout the world, some of whom had been exposed to drug education and some of whom had not.[7] This design has the practical advantages of permitting a broadly representative sample to be assessed in a relatively short time, since the measures are taken only once. However, such a design carries deficiencies in attribution of causality and equivalence of groups. To gain a more precise, though less comprehensive, assessment of drug education effects, a particular drug education program at one post (Post "Y") was evaluated by means of a separate-sample pretest-posttest design, using 220 subjects.[8]

In addition, group interviews were conducted with randomly selected squads of enlisted men at each post (N = 191). The interviews were conducted by young (under 39) Vietnam veterans.

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[6] Rossi, P. Evaluating social programs. New York: Seminar Press, 1972.

[7] Campbell, D. and J. Stanley. Experimental and quasi-experimental designs for research. Chicago: Rand McNally, 1963.

[8] Campbell and Stanley, 1963, op. cit.

Procedure

The measuring instrument used in both efforts was a questionnaire comprising three parts: (1) drug use over the last 60 days, (2) drug education experiences, and (3) background characteristics. The major independent variable in the main survey, exposure to a drug education program, was measured by the response to the item, "What did you learn from the Alcohol and Drug Education Program at this post?" If the respondent checked the answer, "I have not taken part in any of these activities at this post," he was placed in the Not Exposed group; all others were placed in the Exposed Group.[9] Self reports of drug use were obtained on alcohol, marijuana, heroin, narcotics other than heroin, stimulants, depressants, and hallucinogens. For each of these drugs respondents reported whether, since coming to their post, their use of a drug (1) increased or started, (2) stayed the same, (3) stayed zero, or (4) decreased or stopped. It should be noted that these reports of drug use, the major dependent variable, were obtained separately from reports of drug education experiences, and that relative change in drug use was measured, not absolute levels of use.

Because the intent of the research was to draw statistical contrasts between groups, no attempt was made to derive population estimates for particular questionnaire responses. Nevertheless, a stratified multi-stage sampling procedure was employed. Posts with ongoing drug education programs were first selected to provide geographical representativeness. At each post, companies were then categorized according to principal functions; i.e., combat arms, combat support, or combat service support. Companies were randomly selected from within those clusters in proportion to their representation on post. Squads were then randomly selected from within the companies. In all, 1,716 enlisted men were surveyed at 16 posts in the United States, Germany and Korea. Background characteristics of the resulting sample are presented in Table 2.

The questionnaire was administered by a civilian research team from a private firm. Respondents were assured that the questionnaire data would be confidential, and were shown a copy of a letter from the Bureau of Narcotics and Dangerous Drugs granting complete confidentiality of questionnaire responses.

The subjects for the experiment at Post Y were drawn from three different units. The same three units were sampled on the posttest as on the pretest, but the different squads were selected from each unit for the posttest. The questionnaire was administered by the

[9] It should be noted that it is possible that some portion of the Not Exposed group may have been transfers who were exposed at a previous post. Thus, in a strict sense, it was the effect of the post program that was being tested, not the career-long effects.

Table 2

BACKGROUND CHARACTERISTICS OF THE SAMPLE
(N = 1,716)

CHARACTERISTIC	%
Race	
White/Caucasian	72
Black/Afro-American	17
Other	6
No answer	5
Age	
17-18	10
19-20	31
21-22	29
23-25	16
26-29	6
30+	4
No answer	4
Pay Grade	
E-1	11
E-2	13
E-3	17
E-4	35
E-5	17
E-6	2
E-7	0.4
No answer	4
Education	
No high school	2
Some high school	13
GED (high school equivalent)	17
High school diploma	35
Some college	26
College degree	3
Graduate study	.7
Graduate degree	.3
No answer	3

CHARACTERISTIC	%
Status	
Draftee	20
RA	75
Reservist	1.5
No answer	4
Density of Last Civilian Residence	
Within the city limits of a very large city (population over 500,000)	20
In a suburb of a very large city whose population is over 500,000	9
Within the city limits of a city (50,000 to 500,000)	13
In a suburb of a city whose population is 50,000 to 500,000	7
In a large town (10,000 to 50,000)	15
In a town (2,000 to 10,000)	16
In a country town (less than 2,000)	9
On a farm or ranch	8
No answer	4
Type of Unit	
Combat Arms	46
Combat Support Arms	34
Combat Service Support Arms	13
No answer	6
Length of Service	
Less than six months	15
Six to twelve months	15
13-24 months	31
25-36 months	14
37-48 months	5
More than four years	15
No answer	4

civilian research team to 160 enlisted men just before the initiation of a formal drug education program, then presented again two months later to 60 different enlisted men (scheduling difficulties reduced sample size on the revisit). Our samples gave some indications of differences in drug use among squads within units. Pretest-posttest data on specific individuals are not available.

RESULTS

Experiences with Drug Education

Tabulation of the main survey data on drug education experiences provided a sketch of drug education in the Army. Drug education typically took place in a classroom setting, oriented around a lecture, but often included a movie or slide show (63% of enlisted men reporting) and discussion sessions (51%). The program was presented most often by professional people--i.e., medical doctor, chaplain, social worker (total: 46%)--but the single most frequently cited source of information was the company commander (19%). The program messages most often reported were those which "discouraged men from using drugs" (35%), that they would be "punished if caught" (31%), but that "the Army would help you get off drugs if you want" (35%). With regard to alcohol, the modal message was "do not use on duty" (42%). The program was moderately credible; the majority of respondents who had been exposed to drug education believed "Some", "Almost all" or "All" of the program's message.

Effects of Education on Drug Use

Alcohol and drug use of the sample population at the time of the survey is presented in Figure 1. Alcohol was the drug most used in the two months preceding the survey ("Present Use"), followed by marijuana, stimulants, hallucinogens, depressants, narcotics other than heroin, heroin, and inhalants. Most use of alcohol and marijuana was regular (once a week or more), while use of inhalants, hallucinogens, and heroin was on a relatively infrequent basis.

When the drug use patterns of soldiers who had been exposed to drug education were contrasted with those who had not, a significant difference occurred only with alcohol, and that difference was in the direction opposite that hypothesized, i.e., the number of individuals who stopped use was less than expected and the number of those who continued use at the same level was more than expected. On all other drugs, there were no statistically significant differences between the two groups (Table 3).

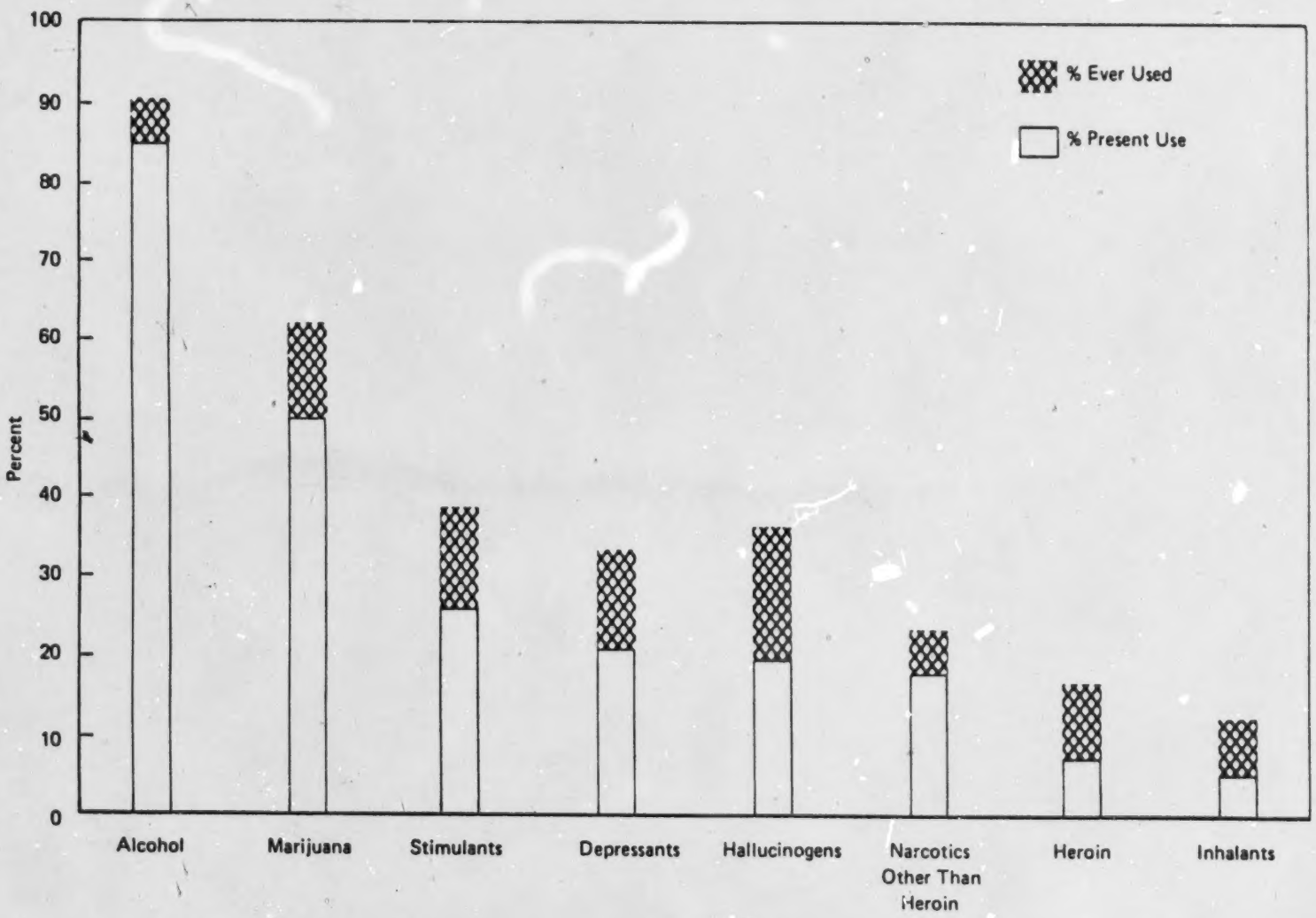

Figure 1. Drug Use (%)

Table 3

EFFECTS OF EXPOSURE TO DRUG EDUCATION
ON PATTERNS OF DRUG USE

	ALCOHOL				MARIJUANA				HEROIN		
	Start or Increase	Same	Zero	Stop	Start or Increase	Same	Zero	Stop	Start or Increase	Same or Zero	Stop
Exposed to Drug Education	235	341	100	261	241	149	386	199	37	742	109
Not Exposed to Drug Education	193	222	59	232	163	113	263	160	32	562	87
	χ^2=9.26, df=3, p<.05 N = 1643				χ^2=1.72, df=3, p>.05 N = 1624				χ^2=.50, df=2, p>.05 N = 1569		

	STIMULANTS				DEPRESSANTS				OTHER NARCOTICS				HALLUCINOGENS			
	Start or Increase	Same	Zero	Stop	Start or Increase	Same	Zero	Stop	Start or Increase	Same	Zero	Stop	Start or Increase	Sam	Zero	Stop
Exposed to Drug Education	23	24	178	78	21	20	119	37	26	13	145	24	13	18	127	50
Not Exposed to Drug Education	23	14	134	46	32	32	213	47	24	24	233	47	33	20	185	69
	χ^2=2.27, df=3, p>.05 N = 520				χ^2=.02, df=3, p>.05 N = 521				χ^2=4.66, df=3, p>.05 N = 536				χ^2=3.72, df=3, p>.05 N = 515			

In a search for effects of particular facets of drug education, over 200 two-way chi-square analyses were performed on relationships between educational process variables (sources, media, and messages) and drug use. Only 10 analyses revealed relationships which were statistically significant at the .05 level; such a result is almost precisely what would have been expected by chance.

However, in response to the direct question about whether drug education affected their drug use, 27 percent of those exposed to drug education reported that it did have an effect. Furthermore, 64 percent of the exposed groups said that they learned something from their drug education experience. The data in Table 4 provide further evidence of a relationship between amount of learning reported and drug use. There is a significant inverse relationship between amount learned and extent of drug use ($\chi^2 = 80.49$, df = 6, $p<.05$). One interpretation of these data is that cognitive changes produced drug use changes, i.e., those who learned more subsequently used drugs less. Another interpretation is that selective attention processes were at work; i.e., abstainers "learned" material which served to confirm their previous judgment that drug use is not beneficial, whereas drug users or those contemplating drug use tended to disregard the negative information and "learned" material which might help lessen the risk of illicit drug use. Analysis of the types of knowledge which individuals of varying drug use patterns reported having acquired from drug education supports this selective-attention interpretation (Table 5). The data suggest that the respondents reported learning those types of knowledge which were consonant with their drug use patterns.

Separate chi-square analyses were then performed on the relationships between background factors and drug use. As shown in Table 6, many of the demographic factors were significantly related to drug use. Age and pay grade (highly correlated) are the two most broadly influential factors, followed by population density of previous residence, education, type of unit, and race.

Based upon the significance of these factors, further analyses were performed to identify potential interactions (i.e., particular effects of combinations of factors) between drug education factors and background factors on drug use changes. The AID-II, the revised form of the Automatic Interaction Detector program, was employed for these purposes. The AID was designed to simulate the procedures of a good researcher in searching for the predictors (independent variables) that increase his power to account for the variance of the dependent variables.[10]

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[10] Morgan, J. & J. Sonquist. Searching for structure. Survey Research Center, University of Michigan, 1971.

Table 4

PERCENTAGE OF MEN REPORTING EACH AMOUNT OF LEARNING AT EACH LEVEL OF DRUG ABUSE

Drug Use	Percent of Men Reporting Results of Drug Education: % Learned Nothing (N=240)	% Learned a Little (N=229)	% Learned Substantial Amount (N=284)	% Total (N=753)
Started or Increased	15	7	5	8
Stayed same	43	32	19	31
Stayed zero	22	47	56	43
Stopped or Decreased	19	15	20	18
Total	99[a]	101[a]	100	100

[a]Percentages do not add up to 100 because of rounding error. $\chi^2 = 80.49$, df = 6, $p < .05$

Table 5

PERCENTAGE OF REPLIES FROM MEN OF EACH DRUG USE PATTERN
ON KNOWLEDGE GAINED FROM DRUG EDUCATION

Learning	DRUG USE PATTERN			
	Started or Increased	Stayed Same	Stayed Zero	Stopped or Decreased
Army Rules	9.5%	11.3%	10.2%	9.8%
Effects of drugs on mind and body	7.8%	8.8%	13.3	8.9%
Dangers of abuse	7.8%	9.7%	14.7%	13.0%
How to handle emergencies	4.8%	4.7%	4.6%	4.4%
Where to get help	10.2%	17.8%	13.8	12.3
How to avoid hepatitis	4.1%	2.5%	1.2%	3.3%
Understanding of abusers	4.8%	7.8%	9.7%	11.2%
Understanding of self	5.4%	3.8%	3.6%	6.7%
How much use is safe	6.5%	4.3%	3.9%	5.0%
Which drugs are dangerous	7.8%	8.7%	10.0%	10.2%
How not to get caught	15.0%	4.4%	1.5%	3.0%
Other kicks	2.7%	2.3%	3.8%	6.5%
Nothing	13.6%	14.0%	9.5%	5.6%
Total number of replies	294	771	1303	660

Table 6

STATISTICAL SIGNIFICANCE OF BACKGROUND INFLUENCES ON DRUG USE

Background Characteristics	DRUG						
	Alcohol	Marijuana	Heroin	Depressants	Stimulants	Narcotics	Hallucinogens
Pay Grade	.05	.05	.05	.05	.05	.05	.05
Type of Unit	NS	.05	NS	.05	NS	NS	NS
Age	.05	.05	.05	.05	.05	.05	.05
Education	.05	.05	NS	NS	NS	NS	.05
Population Density	NS	.05	.05	NS	.05	NS	NS
Race	NS	NS	NS	NS	NS	.05	NS

The program searches a set of predetermined predictors to find which division of the sample will most reduce the within subgroup variance of the dependent variable. The resulting subgroups are then further split on subsequent predictors that reduce the within variance of the subgroups most with respect to the dependent variable. The subgroups continue to split until one of the following conditions is met: all the variance is explained, the subgroups resulting from a split are smaller than a certain critical size (which was chosen to be 20 subjects for the runs described below), or no split will reduce unexplained variance by more than a specified amount (.8%).

Two types of AID analysis were conducted. For both analyses, the dependent variable was a modified form of the four-response variable described above. In the Alpha (α) runs, respondents who were drug users before arriving at the post were divided into users who had increased drug use and those who had not; abstainers and those who had recently started drug use were excluded. In the Beta (β) runs, all respondents were divided into two groups, those who had increased or started drug use, and those who had not, including abstainers. Conceptually, the Alpha run tested the power of particular factors to prevent increased use among current drug users. The Beta run tested the power of particular factors to prevent increased use and to reinforce non-use among all young enlisted men.

The predictors were of three basic types:

1. Background predictors, such as age, race, unit types.

2. Program-related predictors, such as media, content of knowledge, messages.

3. Moderator predictors, such as perceived amount of learning.

Thus the AID analyses provided an estimate of the impact of several potential predictors in particular combinations on the use of several different drugs, both among users and among all the men. However, AID is not a hypothesis-testing form of analysis; it does not permit the rejection of null hypotheses in the manner of conventional inferential statistical methods. Rather, it reveals the relative power of particular predictors to account for variance in drug use. Although each of the 14 AID analyses yielded a different set of predictors, some predictors consistently accounted for more variance in drug use than others, as shown in Table 7. Overall, age and length of time at a post appear to be the main determinants of drug-using behavior changes. Older men almost universally underwent fewer drug-use increases than younger men, with the turning point somewhere between 21 and 23 years of age. In the case of every non-alcoholic drug, men who had been at their present post more than six months were more likely to have started or increased their use than those who had been at their post less than six months. Population density of the last civilian residence predicted a number of differences in drug-using behavior, particularly in regard to the "harder" drugs.

Table 7

PERCENTAGE OF VARIANCE IN DRUG USE ACCOUNTED FOR BY MAJOR VARIABLES IN AID ANALYSIS

Major Variable	DRUG													
	Alcohol		Marijuana		Heroin		Depressants		Stimulants		Other Narcotics		Hallucinogens	
	α	B	α	B	α	B	α	B	α	B	α	B	α	B
Education Level (-)				0.8		0.9		.9				1.9		
Age (-)	1.6	1.2		1.2			4.7	3.7		1.0	7.5	0.9	4.1	2.0
Time in Army (+)			1.1	2.0			5.7							
Time at Post (+)			2.2	2.5	1.0	1.8		2.8		1.0	6.0		2.9	3.8
Army As Career (-)			3.2	5.6					1.2	2.2				
Exposure to Classes (-)					1.9			1.4				1.6		
Basic Training Post (-)	1.5	1.4	6.2	1.0										2.0
Size of Civilian Residence (+)	0.8				5.2		8.6	2.2	4.0	1.3	3.5	1.3	3.7	
Exposure to Halfway House (+)				1.2		1.4								
Knowledge rec.: Consequences of use (+)					3.8			5.3	6.8	2.9		6.0		
TOTAL VARIANCE ACCOUNTED FOR BY MAJOR VARIABLES	3.9	2.6	12.7	14.3	11.9	4.1	19.0	16.3	12.0	8.4	17.0	11.7	10.7	7.8

Note: Although 63 variables were tested in the AID analyses, those listed are the ones which account for the largest amount of variance in drug use. The sign in parentheses indicates the direction of the association between the variables and drug use.

Alpha runs identify variables accounting for differences between drug users who increased use and those who did not increase use. Beta runs identify variables accounting for differences between those who increased use or started and those who abstained or did not increase use.

The numerous aspects of drug education had both positive and negative effects. Although exposure to drug education classes was somewhat effective in preventing increases in the use of heroin, depressants, and other narcotics, knowledge received on the consequences of illicit use (physical dangers, probable punishment, etc.) predicted increases in drug use.

Pretest-Posttest Results

The effects of a formal drug-education program at Post Y on drug-use behavior are shown in Table 8. The table displays reported drug use for individuals who report having been exposed to drug education.[11] No significant difference in drug use appeared between the group assessed before the initiation of the formal program and the group surveyed two months later ($\chi^2 = 0.81$, df = 3, $p<.05$). Similar analyses were also performed for each drug; none of the differences was statistically significant.

Table 8

NUMBER OF SUBJECTS REPORTING CHANGES IN DRUG USE BEFORE AND AFTER DRUG EDUCATION

	Start or Increase	Same	Zero	Stop or Decrease
Before	5	13	33	17
After	4	11	20	9

Interview Results

When asked in group interviews about the impact of the drug education program, majorities in nearly half of the squads indicated that it had "no impact"; in only 5 percent of the squads was it felt to have a "good impact." When asked why the program had no impact, the modal response was "my mind was already made up" (50% of those squads providing reasons for no impact). Program deficiencies accounted for 28 percent

[11] Despite the lack of a formal drug education program at Post Y at the time of the pre-test, 43% of the individuals surveyed on the pre-test reported having been exposed to some form of drug education at this post. The source of such "drug education" was probably a brief talk by one's commander.

of the negative reasons. When asked what drug education methods they preferred, 88 percent said "rap sessions", because they "get people involved, turned on." When asked whether they would feel comfortable talking with a person specially appointed to provide counseling in such matters, 86 percent answered affirmatively; 48 percent indicated that he should be a civilian.

DISCUSSION

With rare exceptions, drug use behavior did not appear to be affected by drug education programs in the Army. Drug abuse patterns of soldiers exposed to drug education programs did not differ significantly from those of soldiers who were not exposed. When program effects at a specific post were assessed through the pretest-posttest design, there was no measurable impact on drug use behavior. Furthermore, in the search for highly specific interactions of several variables, drug education variables seldom accounted for changes in drug use. Finally, interviews with enlisted men indicated that only 5 percent of the men interviewed felt that the drug education experience had a "good impact."

There is considerable support for these findings in the existing literature on drug education. A major study of civilian drug education was recently conducted for the Department of Health, Education, and Welfare.[12] In the HEW study, which most closely resembles the present research in scope and intent, a major conclusion was that "current drug education programs have not prevented drug use."

However, although drug education has shown little substantial impact on drug use, there are several reasons not to abandon drug education entirely.

First, the present research indicated that drug education had positive impact in specific instances. The AID analyses suggested that among certain groups the use of discussion sessions helped to prevent increase in hallucinogen use. Again, among certain groups, exposure to drug education tended to prevent increases in the use of heroin and other depressants. Furthermore, there were indications that drug education had some impact on reported learning, and that there was a significant inverse relationship between drug use and reported learning (although the evidence for selective attention indicated that if this relationship was causal in nature, drug use behavior may have determined the learning, rather than the reverse).

Second, while the literature reveals a paucity of evidence relating drug education to changes in drug use behavior, there are numerous

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[12] Macro Systems, Incorporated. Evaluation of drug education programs; Vol. II, Main report for Department of Health Education, and Welfare. New York: Macro Systems, Inc., 1972.

instances of perceived effects and changes in intervening variables such as attitudes toward drugs. Even though the HEW study[13] concluded that drug education was not effective in preventing drug use, their survey of 1,279 youths from six communities showed that 25 percent of the respondents thought that education stopped people from using drugs. In an evaluation of a two-week course in drug education given to a sample of 567 junior high school students, 25 percent of prior users and 49 percent of the "potential" users stated three weeks after course completion that the drug education course had prevented their continued or future use of drugs.[14] However, these results are weakened by the fact that evaluators asked the students directly if the information they received caused them to decrease or stop their use of drugs, rather than making an independent assessment of drug use. Furthermore, the evaluation survey combined all drugs, including tobacco.

Researchers have also begun to tease out the effects of drug education on intervening variables such as attitudes and knowledge. In one study, exposure to a drug education program was related to positive changes in attitudes toward drugs in a group of seventh graders.[15] Another study found that high school students exposed to drug education demonstrated more knowledge about drugs than students who were not exposed.[16]

In this connection, it has been argued that a variety of criteria of effectiveness should be employed in addition to the criterion of lowered drug use.[17] In fact, some educators feel that lowering drug use should not necessarily be the primary goal of drug education. Perhaps, for example, a deceleration of drug use is a reasonable goal. Others believe that it is simply unrealistic to expect fairly immediate (weeks or months) behavioral results from drug education; that instead, a program should strive to help young people to understand drugs and drug use, to clarify their values and the role of their values in drug use. According to this view, drug education is a long-term process, shaping values and beliefs which surround drug use of all kinds for years to come, helping the recipient to make more informed decisions about drug use.[18] From this

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[13] Macro Systems, 1972, op. cit.

[14] Klein, J. Evaluation of a multimedia drug education program. Journal of Drug Education, 1972, 2 (3), 229-239.

[15] Amendolara, 1973, op. cit.

[16] O'Rourke, T. Assessment of the effectiveness of the New York state drug curriculum guide with respect to drug knowledge. Journal of Drug Education, 1973, 3 (1), 57-66.

[17] Richards, L. Evaluation in drug education: Notes on the state of the art. Paper presented at the National Conference on Research in School Health, Detroit, Michigan, March 1971.

[18] Segal, M. Drug education: Toward a rational approach. International Journal of Addictions, 1972, 7 (2).

perspective, evaluation of drug-education programs on the sole criterion of amount of use represents a shallow distortion of the goals of drug education. This point of view is understandable and has much to recommend it. However, while these are reasonable processes and goals for educational institutions--institutions which are shaping the behaviors and beliefs of children in their formative years--one might seriously question the feasibility and appropriateness of such goals for the military, particularly on any massive scale.

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